

CLAIMS

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We claim:

1. An gauge-based instrument for measuring the sound pressure within a vehicle comprising:

a cylindrical gauge housing, said cylindrical gauge housing having a front portion, a rear portion and a diameter, said front portion constructed and arranged for securement of a faceplate;

a faceplate, said faceplate having sound pressure level markings thereon, said markings being visible through said front portion of said housing;

a gauge motor disposed adjacent to said faceplate;

a signal processing means for receiving a signal indicative of the sound pressure level within said vehicle, said circuit controlling said gauge motor based on said signal;

a pointer extending out of said gauge motor and movable by said gauge motor;

wherein said sound pressure level gauge is mountable within a standard gauge mount.

1 2. A vehicular sound pressure instrument as set forth in
2 claim 1 including a pointer light source to emit light through
3 said pointer as said pointer is pivoted by said gauge motor.
4

5 3. A vehicular sound pressure instrument as set forth in
6 claim 2 wherein said light source is chosen from a group
7 consisting of light bulbs, Light Emitting Diodes and Electro-
8 luminescence, wherein said light source emits light of a
9 different wavelength such that said light source can be used
10 to identify different sound level conditions.
11

12 4. A vehicular sound pressure instrument as set forth in
13 claim 1 wherein said signal processing means is adapted to
14 store a peak sound pressure level during operation of said
15 vehicle;

16 wherein said peak sound pressure may be recalled and
17 displayed on said faceplate during and after operation of said
18 vehicle.
19

20 5. A vehicular sound pressure instrument as set forth in
21 claim 4 wherein said front portion of said cylindrical gauge
22 housing is constructed and arranged to include a rotating
23 bezel, said rotating bezel having a larger diameter than said
24 cylindrical housing diameter;

25 wherein rotation of said bezel in a first direction
26 recalls said peak sound pressure level and rotation of said

1 bezel in a second direction resets said peak sound pressure to
2 zero.

3

4 6. A vehicular sound pressure instrument as set forth in
5 claim 4 wherein said faceplate is constructed and arranged to
6 include at least one switch;

7 wherein operation of said at least one switch in a first
8 mode recalls said peak sound pressure level and operation of
9 said at least switch in a second mode resets said peak sound
10 pressure to zero.

11

12 7. A vehicular sound pressure instrument as set forth in
13 claim 1 wherein said faceplate markings indicate decibels.

14

15 8. A vehicular sound pressure instrument as set forth in
16 claim 1 wherein said faceplate includes a digital display for
17 digitally indicating said sound pressure level within said
18 vehicle.

19

20 9. A vehicular sound pressure instrument as set forth in
21 claim 5 wherein said rotating bezel includes a rubber cover for
22 isolating said vehicular sound pressure instrument from
23 unwanted vibration and aesthetically enhancing said rotating
24 bezel.

1 10. A vehicular sound pressure instrument as set forth in
2 claim 1 wherein said cylindrical housing is constructed and
3 arranged for mounting in a pod type gauge cluster mount;
4 wherein said pod type gauge cluster mount is adapted to
5 mount on the A-pillar of said vehicle.
6

7 11. A vehicular sound pressure instrument as set forth in
8 claim 1 wherein said cylindrical housing is constructed and
9 arranged for mounting in a cup type gauge mount;
10 wherein said cup type gauge mount is adapted to mount on
11 the dash of said vehicle.
12

13 12. A vehicular sound pressure instrument as set forth in
14 claim 1 wherein said cylindrical housing is constructed and
15 arranged for mounting in a panel type gauge cluster mount;
16 wherein said panel type gauge cluster mount is adapted to
17 mount on the dash of said vehicle.
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19 13. A vehicular sound pressure instrument as set forth in
20 claim 1 wherein said circuit means includes at least one
21 microphone, said microphone being positioned at about ear level
22 within said vehicle, said microphone constructed and arranged
23 for electrical communication with said signal processing means.
24

1 14. A vehicular sound pressure instrument as set forth in
2 claim 13 wherein said faceplate is adapted to secure said
3 microphone.

4
5 15. A vehicular sound pressure instrument as set forth in
6 claim 1 wherein said sound pressure level instrument includes
7 a backlighting source, said backlighting source emitting light
8 such that said light is reflected within said cylindrical
9 housing and refracted out of said front portion of said
10 cylindrical housing.

11
12 16. A vehicular sound pressure instrument as set forth in
13 claim 15 wherein said backlighting source is chosen from a
14 group consisting of light bulbs, Light Emitting Diodes and
15 Electro-luminescence, wherein said backlighting source emits
16 light of a different wavelength such that said backlighting
17 source can be used to identify different sound pressure levels.

18
19 17. A vehicular sound pressure instrument as set forth in
20 claim 1 wherein said cylindrical housing diameter is about two
21 and one-sixteenth inches.

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23 18. A vehicular sound pressure instrument as set forth in
24 claim 1 wherein said cylindrical housing diameter is about two

1 and five-eighths inches.

2

3 19. An instrument for measuring the sound pressure level
4 within a vehicle comprising:

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6 a cylindrical gauge housing, said cylindrical gauge
7 housing having a front portion, a rear portion and a diameter,
8 said front portion constructed and arranged for securement of
9 a faceplate;

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11 a faceplate, said faceplate having sound pressure level
12 markings thereon, said faceplate adapted to secure a plurality
13 of light emitting diodes positioned with respect to said sound
14 pressure level markings, said markings and said light emitting
15 diodes being visible through said front portion of said
16 housing;

17

18 a signal processing means for receiving a signal
19 indicative of the sound pressure level within said vehicle,
20 said signal processing means controlling operation of said
21 plurality of light emitting diodes based on said signal;

22

23 wherein said sound pressure instrument is mountable
24 within a standard gauge mount.

1 20. A vehicular sound pressure instrument as set forth in
2 claim 19 wherein said circuit means is adapted to store a peak
3 sound pressure level during operation of said vehicle;

4 wherein said peak sound pressure level may be recalled and
5 displayed on said faceplate during and after operation of said
6 vehicle.

7
8 21. A vehicular sound pressure instrument as set forth in
9 claim 20 wherein said front portion of said cylindrical gauge
10 housing is constructed and arranged to include a rotating
11 bezel, said rotating bezel having a larger diameter than said
12 cylindrical housing diameter;

13 wherein rotation of said bezel in a first direction
14 recalls said peak sound pressure level and rotation of said
15 bezel in a second direction resets said peak sound pressure to
16 zero.

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18 22. A vehicular sound pressure instrument as set forth in
19 claim 20 wherein said faceplate is constructed and arranged to
20 include at least one switch;

21 wherein operation of said at least one switch in a first
22 mode recalls said peak sound pressure level and operation of
23 said at least one switch in a second mode resets said peak
24 sound pressure to zero.

1 23. A vehicular sound pressure instrument as set forth in
2 claim 19 wherein said faceplate markings indicate decibels and
3 said light emitting diodes are progressively activated with
4 respect to sound pressure levels within said vehicle.

5

6 24. A vehicular sound pressure instrument as set forth in
7 claim 19 wherein said faceplate includes a digital display for
8 digitally indicating said sound pressure level within said
9 vehicle.

10

11 25. A vehicular sound pressure instrument as set forth in
12 claim 21 wherein said rotating bezel includes a rubber cover
13 for isolating said sound pressure instrument from unwanted
14 vibration and aesthetically enhancing said rotating bezel.

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16 26. A vehicular sound pressure instrument as set forth in
17 claim 19 wherein said cylindrical housing is constructed and
18 arranged for mounting in a pod type gauge cluster mount;

19 wherein said pod type gauge cluster mount is adapted to
20 mount on the A-pillar of said vehicle.

21

22 27. A vehicular sound pressure instrument as set forth in
23 claim 19 wherein said cylindrical housing is constructed and
24 arranged for mounting in a cup type gauge mount;

1 wherein said cup type gauge mount is adapted to mount on
2 the dash of said vehicle.

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4 28. A vehicular sound pressure instrument as set forth in
5 claim 19 wherein said cylindrical housing is constructed and
6 arranged for mounting in a panel type gauge cluster mount;

7 wherein said panel type gauge cluster mount is adapted to
8 mount on the dash of said vehicle.

9

10 29. A vehicular sound pressure instrument as set forth in
11 claim 19 wherein said circuit means includes at least one
12 microphone, said microphone being positioned at about ear level
13 within said vehicle, said microphone constructed and arranged
14 for electrical communication with said circuit means.

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16 30. A vehicular sound pressure instrument as set forth in
17 claim 29 wherein said faceplate is adapted to secure said
18 microphone.

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20 31. A vehicular sound pressure instrument as set forth in
21 claim 19 wherein said sound pressure level instrument includes
22 a backlighting source, said backlighting source emitting light
23 such that said light is reflected within said cylindrical
24 housing and refracted out of said front portion of said

1 cylindrical housing.

2

3 32. A vehicular sound pressure instrument as set forth in
4 claim 31 wherein said backlighting source includes a plurality
5 of light bulbs wherein each of said plurality of light bulbs
6 emits light of a different wavelength such that each of said
7 plurality of light bulbs can be used for different sound
8 pressure levels to identify said different sound pressure
9 levels.

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11 33. A vehicular sound pressure instrument as set forth in
12 claim 19 wherein said cylindrical housing diameter is about two
13 and one-sixteenth inches.

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15 34. A vehicular sound pressure instrument as set forth in
16 claim 19 wherein said cylindrical housing diameter is about two
17 and five-eighths inches.

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